CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

ORDER NO. 89-182

SITE CLEANUP REQUIREMENTS FOR:

ARCATA GRAPHICS
696 EAST TRIMBLE AVENUE
CITY OF SAN JOSE
SANTA CLARA COUNTY

The California Regional Water Quality Control Board, San Francisco Bay Region, (hereinafter called the Board) finds that:

1. Location and Facility Description - Arcata Graphics, hereinafter called the discharger, owns and operates a roto-gravure printing operation on an approximately 17 acre site in the City of San Jose, Santa Clara County. The site is located at 696 East Trimble Drive, near the intersection of Trimble Avenue and the Montague Expressway (see site location map). A substantial portion of the site is covered by structures utilized by the printing operation. Therefore equipment access for well installation or soils removal may be limited.

2. Site History - The printing facility has been in operation at this site for approximately twenty years. As part of the printing plant operation the discharger operates storage, distribution, and recovery systems for solvents utilized as part of the printing process. The systems include underground and above ground tanks and sumps.

3. Geology/Hydrology - The site is underlain by alluvial plain sediments, consisting of interbedded sands, silts, and clays. In the Santa Clara Valley this alluvial sequence has been divided into a series of aquifers, shallow, intermediate and deep, separated by regional aquitards. The majority of the water production in the Santa Clara is from the deeper aquifer, below 300 feet in depth. The vertical extent of groundwater pollution at this site has not been determined.

   The shallow soil (less than 30 feet below ground surface) present at this site is dominated by finer-grained soil. The current water level in monitor wells on site varies from approximately nine (9) to fifteen (15) feet below ground surface. The groundwater gradient measured by the onsite monitor wells is to the north. The vertical hydraulic gradient has not been measured.

4. Chemicals Of Concern - Five groundwater monitor wells were installed at this facility in 1983-84 to comply with Santa Clara County underground storage tank regulations. In the course of routine water level measurements in September 1988 it was discovered that one of the existing monitor wells (MW-2) contained free product. This product consisted of organic solvents, dominantly toluene, n-heptane, and methylcyclohexane. This pollution appears to be the result of an overflow from an underground sump connected to the solvent recovery system. However, based on a falling head test, no leaks were detected in the sump. The spill may be the result of an overfill and additional source investigation may still be required. The original spill may have resulted in the introduction of pollutants into the unsaturated zone of the soil. However, as a result of damage to the well seal on MW-2 during unrelated site construction activity, pollutants may also have been introduced into the saturated zone.

5. Groundwater Pollution - An additional five (5) site monitoring wells have been installed as part of the site investigation. As of March 1989, discharger monitoring data indicated that the solvent pollution extended vertically at least to a fine-grained water bearing unit at an approximate depth of 13 feet. The lateral and vertical extent of the groundwater pollution have not been completely defined. However, based on data from the existing monitor well network and a soil gas survey completed in September 1988, the pollutant plume appears to have spread radially from the suspected point of discharge.

   Maximum levels of groundwater pollution as of March 1989 include methylcyclohexane (M-C-Hexane) at 1300 parts per billion (ppb), toluene at 51,000 ppb, and heptane at 560 ppb. The current, maximum levels of pollution , based on the July 1989 sampling event, are 500 ppb M-C-Hexane, 17,000 ppb toluene, and 47 ppb heptane. These results do not include results from well MW-2, the only site monitoring well that had detected the existence of free product. Free product was still measured in well MW-2 (.31 feet of floating product) at the time of destruction of well MW-2 in March 1989.

6. Soil Pollution - Investigation of the extent and degree of soil pollution was begun in March 1989 with the collection of soil samples for chemical analysis from five soil borings, four new monitor wells, and three engineering borings. The highest levels of soil pollution occur in the vicinity of the suspected spill. Pollutants detected at thirteen (13) feet below ground surface in the boring for monitor well MW-8 include 240,000 ppb of Toluene, 230,000 ppb of n-Heptane, and 230,000 ppb M-C-Hexane. This location (see map) is "upgradient" of the spill location. Limited soil boring data

indicates that these pollutants are present in soil beneath at least the southern edge of the building.

7. Interim Remedial Actions - The free product was removed from well MW-2 by pumping. Well MW-2 was inadvertently damaged during unrelated site construction activity. The damage to the well may have accelerated the migration of pollutants into the groundwater. In March 1989, in order to eliminate the possibility of the introduction of additional pollutants to the subsurface, MW-2 was destroyed and abandoned. The solvent recovery system underground sump has been removed from service and replaced with an above ground unit.

8. With adoption of Regional Board Resolution 88-160, the Regional Board intends to strongly encourage, and require to the extent that the law allows, the maximum reclamation or reuse of treated extracted groundwater feasible either by the discharger or other public or private water users. These measures include reinjection or reuse of extracted groundwater, and requiring the discharger to submit a plan for the reclamation or reuse of 100% of any extracted groundwater.

   The discharger is currently evaluating water reclamation through discharge to the sanitary sewer, reinjection, and onsite reuse potential. If water reclamation proves to be infeasible and extraction of groundwater will be part of a proposed remedial measure, the results of the water reclamation evaluation will be submitted as part of a completed NPDES permit application for discharge of treated extracted groundwater.

9. The Board adopted a revised Water Quality Control Plan (Basin Plan) for the San Francisco Bay Region on December 17, 1986. The Basin Plan contains water quality objectives and beneficial uses for South San Francisco Bay and contiguous surface and groundwater.

10. The existing and potential beneficial uses of the groundwater underlying and adjacent to the facility include:

    a. Municipal and Domestic Water Supply
    b. Agricultural Water Supply
    c. Industrial Service Water Supply
    d. Industrial Process Water Supply

11. The discharger has caused or permitted, and threatens to cause or permit waste to be discharged or deposited where it is or probably will be discharged to waters of the State and creates or threatens to create a condition of pollution or nuisance.

12. This action is an order to enforce the laws and regulations administered by the Board. This action is categorically exempt from the provisions of the CEQA pursuant to Section 15321 of the Resources Agency Guidelines.

13. The Board has notified the discharger and interested agencies and persons of its intent under California Water Code Section 13304 to prescribe Site Cleanup Requirements for the discharge and has provided them with the opportunity to submit their written views and recommendations.

14. The Board, in a public meeting, heard and considered all comments pertaining to the discharge.

IT IS HEREBY ORDERED, pursuant to Section 13304 of the California Water Code, that the discharger shall cleanup and abate the effects described in the above findings as follows:

A. PROHIBITIONS

1. The discharge of wastes or hazardous materials in a manner which will degrade water quality or adversely affect the beneficial uses of the waters of the State is prohibited.

2. Further significant migration of pollutants through subsurface transport to waters of the State is prohibited.

3. Activities associated with the subsurface investigation and cleanup which will cause significant adverse migration of pollutants are prohibited.

B. SPECIFICATIONS

1. The storage, handling, treatment or disposal of soil or groundwater containing pollutants shall not create a nuisance as defined in Section 13050(m) of the California Water Code.

2. The discharger shall conduct site investigation and monitoring activities as needed to define the current local hydrogeologic conditions and to define the lateral and vertical extent of groundwater pollution. Should monitoring results show evidence of pollutant migration, additional characterization and remediation of pollutant extent may be required.

3. Final cleanup goals for polluted groundwater , onsite and offsite, shall be in accordance with State Water Resources Control Board Resolution No. 68-16, "Statement

of Policy with Respect to Maintaining High Quality of Waters in California". Proposed final cleanup levels shall be based on a feasibility study of remedial alternatives that compare cost, effectiveness, time to achieve cleanup goals, and an assessment of risk to determine effects on beneficial uses, human health and the environment. Cleanup levels shall also have the goal of reducing the mobility, toxicity, and volume of pollutants. Final cleanup levels shall be approved by the Board.

4. If groundwater extraction and treatment is considered as an alternative, the feasibility of water reuse, reinjection, and disposal to the sanitary sewer must be evaluated. Based on the Regional Board Resolution 88-160, the discharger shall optimize, with a goal of 100%, the reclamation or reuse of groundwater extracted as a result of cleanup activities. The discharger shall not be found in violation of this Order if documented factors beyond the discharger's control prevent the discharger from attaining this goal, provided the discharger has made a good faith effort to attain this goal. If reuse or reinjection is part of a proposed alternative, an application for Waste Discharge Requirements may be required. If discharge to waters of the State is part of a proposed alternative, an application for an NPDES permit must be completed and submitted. This application must also include the evaluation of the feasibility of water reuse, reinjection, and disposal to the sanitary sewer.

C. PROVISIONS

1. The discharger shall comply with the Prohibitions and Specifications above, in accordance with the following time schedule and tasks:

TASKS AND COMPLETION DATES

a. TASK: PROPOSAL FOR SOIL AND GROUNDWATER POLLUTION CHARACTERIZATION:

Submit a workplan detailing the tasks necessary to complete the characterization of the lateral and vertical extent of soil and groundwater pollution, including the number and location of any additional wells or soil borings proposed. This workplan should also detail the investigation of free product in the subsurface. In addition, the workplan shall propose interim remedial alternatives and include an implementation plan and schedule for each alternative. If extraction of groundwater is an element of the proposed interim action

this report shall also evaluate the re-injection, re-use or disposal to the sanitary sewer of the extracted groundwater. If it is demonstrated that alternative means of groundwater disposal are impractical or infeasible then the workplan should also include a completed NPDES permit application and the implementation schedule should relect the necessary time for processing the NPDES permit application and to receive a completed NPDES Permit to discharge to surface waters, if such discharge is part of the plan.

COMPLETION DATE: January 31, 1990

b. TASK: SUBMIT SITE SAFETY , SAMPLING AND ANALYSIS, AND QUALITY ASSURANCE PROJECT PLANS:

Submit a Site Safety Plan, Sampling and Analysis Plan, and Quality Assurance Project plan. These plans must be acceptable to the Executive Officer and consider CERCLA/SARA regulations and guidance documents for format and content.

COMPLETION DATE: January 31, 1990

c. TASK: CHARACTERIZATION OF GROUNDWATER AND SOIL POLLUTION AND EVALUATION OF INTERIM REMEDIAL ALTERNATIVES:

Submit a technical report acceptable to the Executive Officer documenting completion of the necessary tasks identified under Provision C.1.a. to complete the characterization of soil and groundwater polution and the installation of any proposed interim remedial actions for soil and groundwater.

COMPLETION DATE: July 1, 1990

d. TASK: PROPOSED FINAL GROUNDWATER AND SOIL CLEANUP OBJECTIVES:

Submit a technical report acceptable to the Executive Officer evaluating the installed interim remedial measures, if any; proposed soil and groundwater cleanup objectives; a feasibility study evaluating alternative final remedial measures necessary to achieve final groundwater cleanup objectives; and the tasks and time schedule necessary to implement the recommended final remedial measures.

COMPLETION DATE: December 15, 1990

e. TASK: COMPLETE IMPLEMENTATION OF FINAL CLEANUP ACTIONS:

Submit a technical report acceptable to the Executive Officer documenting the implementation of the actions as proposed and accepted by the Executive Officer in accordance with Task d. above.

COMPLETION DATE: Sixty (60) days after implementation of remedial actions as proposed in the schedule of Task C.1.d. and accepted by the Executive Officer.

f. TASK: FIVE YEAR STATUS REPORT:

Submit a technical report acceptable to the Executive Officer containing the following:

1. The results of any additional investigative work completed,
2. an evaluation of the effectiveness of installed final cleanup measures,
3. additional measures to achieve final cleanup objectives and goals, if necessary,
4. a comparison of previously estimated costs with actual costs incurred and a revised projection of necessary costs to achieve final cleanup goals and objectives,
5. the tasks and time schedule necessary to implement any additional final cleanup measures,
6. recommended measures for reducing Board oversight activities,
7. describe the reuse of extracted groundwater, if any,
8. evaluate and document the removal and/or cleanup of polluted soil, and groundwater.

If groundwater cleanup levels have not been achieved through the implementation of the approved groundwater and soil remediation plans, this report shall also contain an evaluation addressing whether it is technically feasible to achieve the groundwater cleanup levels by other means, and if so, a proposal for procedures to do so or, if not, a proposal for alternative groundwater cleanup goals.

COMPLETION DATE: December 13, 1994

2. The submittal of technical reports evaluating final groundwater remedial measures will include a projection of the cost, effectiveness, benefits, and impact on public health, welfare, and environment of each alternative measure. The remedial investigation and feasibility study shall consider

the guidance provided by Subpart F of the National Oil and Hazardous Substances Pollution Contingency Plan (40 CFR Part 300); Section 253 56.1 (c) of the California Health and Safety Code; CERCLA guidance documents with reference to Remedial Investigation, Feasibility Studies, and Removal Actions; and the State Water Resource Control Board's Resolution No. 68-16, "Statement of Policy with Respect to Maintaining High Quality of Waters in California."

3. Technical reports shall be submitted on a quarterly basis summarizing the status of compliance with this Order, and quarterly monitoring data for site monitoring wells as defined in the SAP subbmitted in Task C.1.b. The reports shall be submitted according to the schedule below, commencing with the report for the fourth quarter 1989, due January 31, 1989.

Quarter	1st quarter	2nd Quarter	3rd Quarter	4th Quarter
Period	Jan-March	April-June	July-Sept	Oct-Dec
Due Date	April 30	July 31	October 31	January 31

The quarterly reports shall include;

a. a summary of work completed since the previous quarterly report,
b. appropriately scaled and labeled maps showing the location of all monitoring wells, extraction wells, and existing structures,
c. updated water table and piezometric surface maps (second and fourth quarters only) for all affected water bearing zones, and isoconcentration maps for key pollutants in all affected water bearing zones,
d. a summary tabulation of all well construction data, groundwater levels and chemical analysis results for site monitor wells,
e. a summary tabulation of volume of extracted groundwater, calculation of cumulative pounds of pollutants removed, and results of chemical analysis for all site groundwater extraction wells,
f. identification of potential problems which will cause or threaten to cause noncompliance with this Order and what actions are being taken or planned to prevent these obstacles from resulting in noncompliance with this Order,
g. in the event of noncompliance with the Provisions and Specifications of this Order, the report shall include written justification for noncompliance and proposed actions to achieve compliance,
h. the report for the fourth quarter of each calendar year shall contain the data for the quarter and shall serve as a summary report for the calendar

year containing a summary tabulation of all data for the preceding year.

4. If the discharger is delayed, interrupted or prevented from meeting one or more of the completion dates specified in this Order, the discharger shall promptly notify the Executive Officer and the Board may consider revision to this Order.

5. All hydrogeologic plans, specifications, reports, and documents shall be signed by or stamped with the seal of a registered geologist, engineering geologist or professional engineer.

6. All samples shall be analyzed by State certified laboratories or laboratories accepted by the Board using approved EPA methods for the type of analysis to be performed. All laboratories shall maintain quality assurance/quality control records for Board review.

7. The discharger shall maintain in good working order, and operate as efficiently as possible, any facility or control system installed to achieve compliance with the requirements of this Order.

8. Copies of all correspondence, reports, and documents pertaining to compliance with the Prohibitions, Specifications, and Provisions of this Order shall be provided to the following agencies:

   a. Santa Clara Valley Water District
   b. City of San Jose/Bureau of Fire Prevention
   c. State Department of Health Services/TSCD

9. The discharger shall permit the Board or its authorized representative, in accordance with Section 13267(c) of the California Water Code:

   a. Entry upon the premises in which any pollution source exists, or may potentially exist, or in which any required records are kept, which are relevant to this Order.

   b. Access to copy any records required to be kept under the terms and conditions of this Order.

   c. Inspection of any monitoring equipment or methodology implemented in response to this Order.

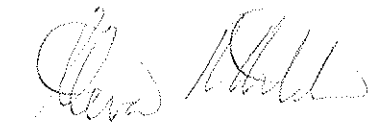
   d. Sampling of any groundwater or soil which is accessible, or may become accessible, as part of any investigation or remedial action program undertaken by the discharger.

10. The discharger shall file a report on any changes in site occupancy and ownership associated with the facility described in this Order.

11. If any hazardous substance is discharged in or on any waters of the State, or discharged and deposited where it is, or probably will be discharged in or on waters of the State, the discharger shall report such to this Regional Board, at (415) 464-1225 on weekdays office hours from 8 a.m. to 5 p.m., and to the Office of Emergency Services at (800) 852-7550 during non-business hours. A written report shall be filed with the Regional Board within 5 working days and shall contain information relative to: the nature of waste or pollutant, quantity involved, duration of incident, cause of spill, Spill Prevention, Control, and Countermeasure Plan (SPCC) in effect, if any, estimated size of affected area, nature of effects, corrective measures that have been taken or planned, and a schedule of these activities, and persons/agencies notified.

12. The Board will review this Order periodically and may revise the requirements when necessary.

I, Steven R. Ritchie, Executive Officer, do hereby certify that the foregoing is a full, true and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region, on December 13, 1989.



STEVEN R. RITCHIE
EXECUTIVE OFFICER